

Rodenticides and Safer Rodent Control



How the poisons kill

- Most rodenticides are anti-coagulants. They prevent the blood from clotting and thin it until the victim eventually dies from internal bleeding. The time taken for a rodent to die after eating the bait varies from 2 to 12 days.
- A rodent eating a sub-lethal dose (not enough to kill it) may carry the poison in its liver for several months. Before a poisoned rodent dies it may be caught by a Barn Owl which then ingests the poison. This is called secondary poisoning.
- Creatures which have been killed by secondary poisoning include Barn Owls, Tawny Owls, Red Kites and Foxes. Animals which have been killed by directly eating rodenticide baits include dogs, cats, pigeons and blackbirds.
- Research has shown that poisoned Barn Owls either die slowly, or survive and carry a residue of poison in their bodies. Typically it takes 6 to 17 days for a Barn Owl to die after eating 3 mice containing the poison Brodifacoum. Unfortunately no research has been carried out on the effects of sub-lethal doses on wild Barn Owls. However a study on poisoned captive Barn Owls reported weight loss and lethargy (closing eyes and reduced flying) on day 5 of their experiment (Salim et al. 2014)



First vs Second Generation Anticoagulant Rodenticides

The various anticoagulant rodenticide poisons are divided into two 'generations' based simply on when they were first introduced and, in simple terms, how toxic they are. First generation rodenticides were first introduced in the 1940s. The second generation rodenticides were first introduced in the 1970s and are 100 to 1,000 times more acutely toxic.

Most birds of prey are contaminated

- The extent to which second generation anticoagulant rodenticides (SGARs) have contaminated small-mammal predators is shocking. The proportion of Barn Owls contaminated reached its highest level in 2015, an alarming 94%. The latest (2022) figure is virtually 80%.
- Earlier results from the *Predatory Bird Monitoring Scheme* show that 100% of the Kestrels they examined in 2011 were contaminated, along with 94% of Red Kites! The problem is not restricted to a particular area. The analysed corpses were sent in by the public from across Britain. In other words, virtually the entire populations of these 3 sentinel species have been feeding on rodents that contain rat poison.
- In fact, research has shown that in a specific year the Kestrel population index is consistently lower where the total SGAR was higher in the same year (Roos *et al*, 2020) suggesting SGARs are potentially having a population-limiting effect on Kestrels.
- Sparrowhawks (93%), Buzzards (48%), Peregrine Falcons (35%) and even Hedgehogs (57%) contain SGAR too.



Sustainable rodent control

Killing rodents can only provide short-term control of populations. **Sustainable control** can only be achieved by reducing the rodent carrying capacity of the environment, principally by reducing food and harbourage.

Poisons should only be used as a very last resort where non-toxic and less-toxic methods have been deployed and a significant rodent problem still exists and is a threat to human health.

We recommend that rodent control methods are used in the following hierarchy, in order of least risk to non-target species:

1.Remove access to food – get rid of whatever they are eating or prevent their access to it (e.g. by rat-proofing buildings). Change feeder designs, feeder positions, and feeding regimes so that the birds/animals you want to feed can access the food but rats cannot or are more exposed to predation.

2.Remove harbourage – remove whatever the rodents are under, in, or behind. Block holes with stone, cement/concrete, ferrous metal or balls of squashed wire netting. Note: following MAFF-funded research, the Central Science Laboratory reported that removing harbourage is as effective as using poison and more useful as a long term approach (Lambert et. al 2003).

3.Encourage natural predators – erect Barn Owl and Tawny Owl nestboxes – high up but as close as possible to the problem rodents. Be tolerant of Foxes – they also eat rats. Keep rat burrow areas clear of vegetation.

4.Encourage domestic predators – Jack Russell terriers (and similar) generally love ratting. Death is usually very quick.

5.Live traps – trip-traps and cage-traps are readily available. Slightly time-consuming; traps should be checked twice a day. Release rodents at least several kilometres away.

6.Instant-kill traps – spring-traps and snap-traps should be baited with hard food morsels carefully tied on with thin wire. DOC traps and Perdix traps set in wooden tunnels are amongst the most humane. Slightly time-consuming; traps should be checked daily. Please be aware that some pre-baited instant-kill traps might also target Weasels and Stoats and so should be avoided.

7.Electrocution devices – Rat Zapper (or similar) battery powered devices do work. Slightly time-consuming; small electrocution devices should be checked daily. Large multi-catch devices like the WiseBox are much less time-consuming and, compared to poisoning are a very humane and safe way of killing.

8.Shooting – a pre-charged pneumatic (PCP) air rifle with an infra-red or thermal gunsight used at night can be very effective. Very time consuming. Contact your nearest air rifle club. Risk of slow death related to skill level.

9.Cholecalciferol – A biocide poison which causes a fatal vitamin D3 overdose when ingested. Available in bait blocks and used in the same way as first and second-generation rodenticides. Negligible risk of secondary poisoning to raptors, however extremely toxic to pets (especially dogs).

10.Fumigant (aluminium phosphide or hydrogen cyanide) – contact a local pest control company. Produces deadly gas on contact with moisture. Death is probably very quick with most dying underground, so little or no risk to others. Note: in the EU, aluminium phosphide is only approved for use outdoors.

11.Alphachloralose – (mice only). Contact a local pest control company. Death is apparently fairly quick with most dying close to the baiting points or in runs or burrows, so little risk to others. Note: in the EU and UK, Alphachloralose is only approved for the indoor control of mice.



Charity No: 1201419
www.barnowltrust.org.uk

Email: info@barnowltrust.org.uk
Tel: 01364255256
Ashburton, Devon